

Claims

1. A smoke filter comprising a first portion and a second portion, said first portion being closed against particulate material flow and said second portion providing a through path for particulate material flow, said first portion and said second portion being separated by barrier means, said barrier means having pores therein, which pores have a pore size of less than about 0.1  $\mu\text{m}$ .
2. A smoke filter according to Claim 1, wherein the barrier means is porous to the vapour phase of smoke.
3. A smoke filter according to Claims 1 or 2, wherein said barrier means is formed from a flexible material.
4. A smoke filter according to Claims 1 or 2, wherein said barrier means is formed from a rigid material.
5. A smoke filter according to any one of the preceding claims, wherein said barrier means is formed from a vapour porous polymeric material.
6. A smoke filter according to Claim 5, wherein said polymeric material is selected from the group consisting of polypropylene, polyethylene, polyvinylidene fluoride, polyvinyl chloride, polycarbonate, nylon, Teflon™ (PTFE), cellulose acetate or nitrocellulose.
7. A smoke filter according to Claims 1-4, wherein said barrier means is a vapour porous ceramic material.
8. A smoke filter according to Claims 1-4, wherein said barrier means comprises a vapour porous paper.
9. A smoke filter according to any one of the preceding claims, wherein said first portion of the tobacco smoke filter comprises an adsorbent material.
10. A smoke filter according to Claim 9, wherein said adsorbent material is a general adsorbent.
11. A smoke filter according to Claim 10, wherein said general adsorbent is a carbonaceous material.
12. A smoke filter according to Claim 11, wherein said carbonaceous material is in the form of a thread, particles/granules, cloth, paper or a reconstituted carbon-containing sheet.

13. A smoke filter according to Claim 10, wherein said general adsorbent is a non-carbonaceous material selected from the group consisting of zeolite, silica, meerschaum, aluminium oxide or combinations thereof.
14. A smoke filter according to any one of Claims 1-8, wherein said first portion of said smoke filter comprises a catalyst.
15. A smoke filter according to Claim 14, wherein said catalyst facilitates the conversion of carbon monoxide (CO) to carbon dioxide (CO<sub>2</sub>) in the vapour phase of the smoke.
16. A smoke filter according to Claim 15, wherein said catalyst is selected from the group consisting of transition metal oxides, silica, alumina, zeolites, impregnated carbon.
17. A smoke filter according to any one of Claims 1-8, wherein said first portion of said smoke filter comprises a selective adsorbent.
18. A smoke filter according to Claim 17, wherein said selective adsorbent material is selected from the group consisting of an ion-exchange resin, zeolite or silica.
19. A smoke filter according to Claim 1, wherein said first portion comprises an adsorbent and a catalyst.
20. A smoke filter according to any one of Claims 14-16, wherein said filter further comprises a third portion, which third portion comprises an adsorbent.
21. A smoke filter according to Claim 20, wherein said third portion is located upstream of said first portion of the filter.
22. A smoke filter according to any one of the preceding claims, wherein said second portion of said filter comprises a conventional smoke filtration material.
23. A smoke filter according to Claim 22, wherein said conventional smoke filtration material is one or more of cellulose acetate, paper and polypropylene.
24. A smoke filter according to any one of the preceding claims, wherein said first and said second portions are in co-axial alignment.
25. A smoke filter according to Claim 24, wherein said first portion forms an inner core and said second portion forms an outer annulus of a core-annulus arrangement.

26. A smoke filter according to Claim 24, wherein said second portion forms a core and said first portion forms an outer annulus of a core-annulus arrangement.
27. A smoke filter according to any one of claims 1-23, wherein said first portion is formed of a number of discrete, substantially longitudinal segments arranged in co-axial alignment within said second portion of said filter.
28. A smoke filter according to Claim 27, wherein each segment of said first portion is separated from said second portion by barrier means.
29. A smoke filter according to any one of the preceding claims, wherein said first portion is closed to the through flow of particulate phase material at the upstream end thereof.
30. A smoke filter according to Claim 29, wherein closure of said first portion is achieved by a plug.
31. A smoke filter according to Claim 30, wherein said plug is formed from a high pressure drop cellulose acetate, plastic, metal or the barrier material described of claims 3-8.
32. A smoke filter according to any one of the preceding claims, wherein said filter further comprises additional portions of conventional smoke filtration material.
33. A smoke filter according to Claim 32, wherein said first, second and third (if present) portions are in co-axial alignment with at least one additional filter portion.
34. A smoke filter according to Claim 33, wherein said additional portion of said filter is in end-to end abutment with said first, second and third (if present) portions of the filter.
35. A smoke filter according to any one of claims 32-34, wherein said additional portion is comprised of cellulose acetate.
36. A smoking article comprising a smoke filter according to any one of claims 1-35 in combination with a rod of smoking material wrapped in a wrapper.
37. A smoking article according to Claim 36, wherein said smoking material comprises a flavourant.
38. A smoking article according to Claim 37, wherein said flavourant is in stabilised or encapsulated form.

39. A smoking article according to Claim 37, wherein said flavourant is a non-volatile flavourant.
40. A smoke filter substantially as hereinabove described with reference to the diagrammatic drawings hereof.